FY 2010 319 GRANT PROJECT PROPOSAL

EASTERN NORTH DAKOTA SOIL SALINITY SPECIALIST

Red River Regional Council, Lake Agassiz Regional Council,
Northern Plains RC&D Council, and Sheyenne James RC&D Council

Assisted by RC&D Coordinators
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Project Summary Sheet

PROJECT TITLE:

Eastern North Dakota Soil Salinity Specialist

EASTERN NORTH DAKOTA RC&D COUNCILS:

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STATE CONTACT PERSON:

Greg Sandness
NPS Pollution Manager, North Dakota
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WATERSHEDS: High Priority Watersheds of Eastern North Dakota

HYDROLOGIC UNIT CODES: Watersheds of the Rush River (09020204), the Red River (09020301), the Devils Lake Basin (09020201), the Sheyenne River (09020204), and the James River (10160001).

PROJECT TYPES	**WATERBODY TYPES**	**NPS CATEGORY**
(X) STAFFING & SUPPORT	( ) GROUNDWATER	(X) AGRICULTURE
(X) WATERSHED	(X) LAKES/RESERVOIR	(X) URBAN RUNOFF
( ) GROUNDWATER	(X) RIVERS	( ) SILVICULTURE
(X) I & E	(X) STREAMS	( ) CONSTRUCTION
	(X) WETLANDS	( ) RESOURCE

PROJECT AREA: The project area will include approximately the eastern one-third of North Dakota, with the named tributaries in the Northern Plains, Red River, Sheyenne James and Lake Agassiz RC&D Areas.

SUMMARIZATION OF MAJOR GOALS: The first goal of this program will be to increase awareness of the soil salinity issues in the eastern portion of North Dakota to landowners, agricultural producers, resource managers, and policy makers. A Prairie Public Broadcasting (PPB) documentary will be made to enhance this effort. The soil salinity specialist will coordinate efforts to treat salinity and promote demonstrations with the partnership. Financial assistance will be provided to landowners on selected sites to demonstrate effective saline

management in order to improve soil health and reduce runoff of saline water into river systems. Technical assistance will be provided by the Natural Resources Conservation Service (NRCS), Agricultural Research Service (ARS), and Remote Sensing National Lab to develop a better inventory of acres impacted by salinity; and by the NRCS and NDSU Extension to develop better saline soil management methods. Needed research will be referred to the partnership and advisory committee for follow-up to ARS and educational institutions.

PROJECT DESCRIPTION:

This project will focus on information, education and demonstrations of proper management of saline areas during the project period.

1) Result in the improvement, protection, and management of saline soil areas within high priority watersheds in Eastern North Dakota that have been seriously impacted by long term agronomic practices, excessive precipitation, and removal of native vegetation.

2) Maximize the reduction of non-point source (NPS) water pollution from saline soil run-off by targeting high priority watersheds and sub-watersheds.

3) Develop a better inventory of saline soils by assisting the Natural Resources Conservation Service (NRCS) by developing the use of Moderate Resolution Imaging Spectroradiometer (MODIS). Utilize the state's most current Section 303(d) list and the NRCS salinity inventory maps to identify priority watersheds for the development of saline soil management demonstration sites.

4) Improve effectiveness of saline soil management by implementing new and acceptable agronomic management recommendations on selected demonstration sites.

5) Coordinate the delivery of multiple programs involving saline soil management using funding from the Environmental Protection Agency (EPA) 319 Program, the U.S. Department of Agriculture (USDA), and other state and non-governmental sources using a saline soil management advisory committee.

6) Directly assist agricultural producers in order to educate them about improvement and effective management of saline soil areas.

7) Increase the awareness and expertise of resource managers, policy makers, and landowners.

8) Better trained conservation planners and thus conservation plans that address saline soil management.

FY 2010 319 Funds Requested:	**$168,500**
Non-federal match:	**$112,590**
Other Federal Funds:	**$206,000**
Total Project Cost:	**$487,090**
Funded FTE Positions:	**1.0 FT**

2.0 STATEMENT OF NEED

2.1 Water Quality Priorities

The North Dakota Natural Resources Conservation Service (NRCS) estimates that there are at least 1 to 1.5 million acres of slightly saline soils in the state; and 225,000 to 300,000 acres of moderate to strongly saline soils. Over time, slightly saline soils are becoming moderately to strongly saline; and salinity is moving into more productive non-saline areas. The change is a subtle one, and as such, many producers do not understand the scope of the problem. Ditch-affected salinity impacts 30,000 acres which is directly caused by human influence, and most times can easily be corrected. The increase in saline acres is the result of the current wet cycle, which began in the early 1990's, and from a change in land use.

Salinity classes identified in major soils in the James River and Red River Basins in eastern North Dakota are illustrated in Attachment A. Soils identified by these saline classes are dominant soils only and exclude minor inclusions. Attachment B depicts potential areas impacted by soil salinity. This map depicts the susceptibility of all soils in a map unit and weighs the potential area impacted by the percent of soils within a map unit that are saline or are at risk of salinization. The increase in inventoried saline soils is due in part to the wet cycle and land use change, but is also the result of better soil inventory tools and a focus on mapping saline soils. Recent updates to soil surveys in Richland County, ND and Kittson County, MN indicate an increase in acres of saline soils. Comparison of Attachment A (Identified Salinity) and Attachment B (Potential Salinity) for Richland County indicate a much closer correlation that other counties without recent soil survey updates.

The geology of eastern North Dakota also contributes to the problem. The fertile soils of the Red River Valley, known as glacial Lake Agassiz, formed when sediments filled the lake after the last ice age ended about 10,000 years ago. During the ice age, a sheet of glacial ice several thousand feet thick depressed the earth as much as 600 feet and created a huge bowl, resulting in several hundred feet of lake deposits. The Red River Valley is now a regional discharge area for the entire northern plains, with salty water moving into and through the valley. Salinity is increasing because of high water tables in the Devils Lake Basin and along wetland edges in the prairie pothole region. Saline seeps which from lateral movement of water through the soil profile are also increasing in the region.

Soils in North Dakota formed under native prairie vegetation, and the conversion to annual agricultural crops has caused an increase of soil salinity. Since annual crops use less moisture than native prairie vegetation, excess moisture accumulates in the soil profile. The unused moisture has caused water tables to raise, water to move laterally in the soil, and has allowed water to move to the fringes of wetlands and road ditches. Salts are soluble, and move easily with the water. Evaporation or evapo-transpiration removes water from an area, allowing salts to remain at or near the surface. Since it is economically impractical to seed millions of acres back to native prairie grasses in order to use the excess water, it is important to pursue management options acceptable to the agricultural economic system to mimic native grasses and improve water use.

Examples of agronomic methods that will use excess soil moisture and prevent water from carrying salts to the soil surface include: late-maturing, deep-rooted crops in a rotation; the inclusion of perennial vegetation such as alfalfa in a crop rotation, and the use of post-harvest, deep rooted cover crops planted after small grains. The use of newer technologies such as precision agriculture has shown promise as an effective agronomic tool to reduce salinity. Current mapping services and soil testing available to farmers will help identify saline areas in their fields and determine the level of salinity. Soil fertility needs can be identified and fertilizer

rates adjusted to the amount needed, thus preventing the application of additional salt in the form of unused fertilizer.

If there is no remedial action taken, there will likely be billions of dollars in losses over the next few decades. Annually there will be at least 50 to 90 million dollars in the Red River Valley alone, according to Mike Ulmer, Regional Soil Scientist with NRCS. Many of the greatest value crops raised in the region are salt sensitive. These crops include edible beans, soybeans, potatoes, sugar beets, corn and wheat.

In a recent Conservation Innovation Grant (CIG) narrative submitted by Dr. Marinus Otte, NDSU Professor, Department of Biological Sciences, "sulfate can displace phosphate and so lead to secondary eutrophication and algal blooms. Sulfate salinity is an increasing concern to farmers and ranchers in North Dakota and the wider region. Sulfate concentrations in tile drain water in the Red River Valley ranges from 40-6610 mgL^{-1}, average 1300, median 490 in unpublished data from Ms. Roxanne Johnson, AES/NDSU, 2008." Many of the values observed by Ms. Johnson exceed the threshold levels established by the North Dakota Department of Health.

Ms. Johnson is also completing a complimentary study to determine the salinity of water flowing from salinized cropland and the impacts to surface water. As water tables raise, the result of land use changes and less water use by vegetation, saline waters will enter surface waters from associated springs. If the issue with soil salinity is not addressed there will be major problems for water users in the future. Most salts, once dissolved in water, are not removed by natural processes and with present technology their removal is financially prohibitive. There are also indirect water quality impacts resulting from reduced vegetation on the soil surface and the associated runoff of pesticide and sediment. Salinity can render water undrinkable, unuseable for agricultural purposes, or incapable of supporting aquatic life since agricultural runoff dissolves and concentrates mineral salts found in soils.

Success stories exist with large scale salinity control programs. Australia has implemented a nationwide strategy for dealing with the problem. The Montana Salinity Control Association has been running a successful program for the last twenty years, and there are successful efforts ongoing in the Canadian Prairie Provinces.

An effective, sensible approach for the treatment of saline areas throughout North Dakota will have a profound positive impact on the state's economy by retaining many farm enterprises and farm related industries being affected by lost production due to soil salinization. Current USDA conservation programs such as the Agricultural Water Enhancement Program (AWEP) or the Cooperative Conservation Partnership Initiative (CCPI) offer good opportunities for land treatment for a large scale area. Applications for these programs could be written after the soil salinity specialist has assumed duties.

The focus of this effort will be improvement of saline soil to reduce saline water runoff and enhance water quality, by demonstrating acceptable agricultural alternatives. Alternative cropping systems with cover crops would reduce the number of acres of land tile drained and improve water quality.

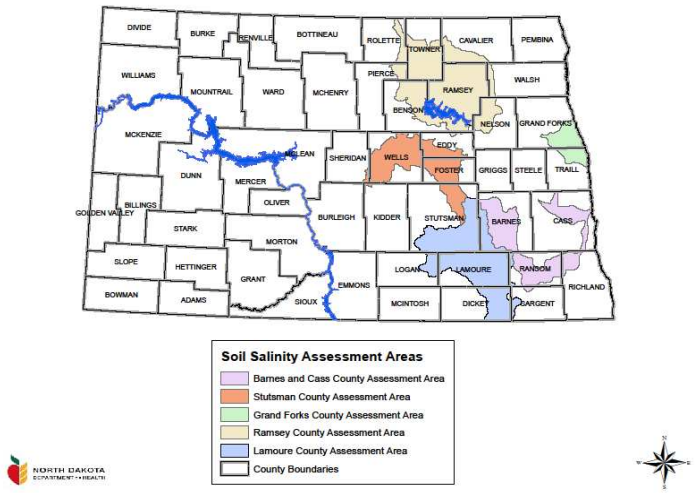
Specific watersheds and demonstration sites to be targeted are listed in Table 1. RC&D Councils prioritized the list of watersheds shown within each county. This prioritization resulted from a two-tier approach for focusing efforts: 1) Primarily those areas with a large acreage impacted or with potential to be impacted by soil salinity based on NRCS inventories 2) Watersheds listed in the 303(d) list. Even though the list does not identify salinity as an impairment, practice implementation from this proposal will improve the water quality impairments listed.

Table 1: Prioritized Watersheds		
County	**Prioritized Watershed**	**Identified Needs:**
Cass	Rush River downstream to an unnamed tributary watershed in north central Cass County. (HU 09020204)	• Address concentrated low moisture use crop rotation areas to increase water use and reduce saline runoff. • Promote the use of cover crops in crop rotations to increase vegetative water use and reduce saline runoff. • Promote the use of Precision Agriculture techniques. • Provide information and education on saline soil management. • Watershed level management to ensure the improvement of all stream system dynamics.
Grand Forks	Red River of the North from its confluence with the Sand Hill River, downstream to its confluence with Cole Creek. (HU 09020301)	
Ramsey	Devils Lake. (HU 09020201)	
Barnes	Sheyenne River from its confluence with a tributary watershed below Valley City downstream to its confluence with a tributary near Highway 46. Located in Barnes County. (HU 09020204)	
Stutsman	James River from its confluence with Pipestem Creek downstream to its confluence with Seven Mile Coulee. (HU 10160001)	

Total Maximum Daily Loads (TMDL):

Priority Watersheds for Project Implementation

Section 303(d) of the Clean Water Act and its accompanying regulations (CFR Part 130 Section 7) requires each state to identify water bodies (i.e., lakes, reservoirs, rivers, and streams) which are considered water quality limited requiring load allocations, waste load allocations, or total maximum daily loads. A water body is considered water quality limited when it is known that its water quality does not meet or is not expected to meet applicable water quality standards. This can result from point sources of pollution, non-point sources of pollution, or both. Pollutants which can cause use impairment are, by federal and state definition, “any man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.” The following map identifies the TMDL water bodies that will be addressed in this project.



The following water bodies are identified in the North Dakota 2008 Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Waters Needing Total Maximum Daily Loads.

Description	Designated Use	Use Support	Impairment	Priority
Rush River (Cass County)	Fish & Other Aquatic Biota Recreation	Not Supporting Not Supporting	Sedimentaion/Siltation Fishes Bioassessment Fecal Coliform	High High Low
Red River (Grand Forks County)	Fish Consumption	Not Supporting	Methylmercury	Low
Devils Lake Basin (Ramsey County)	Fish Consumption Recreation	Not Supporting Fully Supporting But Threatened	Methylmercury Nutrient/Eutrophication Biological Indicators	Low Low
Sheyenne River (Barnes County)	Fish & Other Aquatic Biota	Fully Supporting But Threatened	Sedimentaion/Siltation	Low
James River (Stutsman County)	Fish & Other Aquatic Biota	Fully Supporting But Threatened	Oxygen Dissolved Ammonia (Un-ionized)	High High

This project will initiate an effort to reduce adverse impacts to water quality because of runoff from saline soil in eastern North Dakota. The primary intent will be to increase the awareness of the detrimental impacts to soil and water quality from saline soil. The project will promote the use of high moisture crop rotations, cover crops, and precision agriculture. A minimum of six demonstration sites will be established.

2.2 Targeted Audience

The targeted audience for this project is landowners including absentee landowners, agricultural producers, soil conservation districts, water resource district boards, county commissions, grower groups, policy makers, resource managers, and agency employees.

3.0 PROJECT DESCRIPTION

This proposal, sponsored by the RC&D Councils in eastern North Dakota, and supported by the subcontractors and cooperators listed in Appendix II, is a watershed project for the improvement of saline soil areas in high priority watersheds of eastern North Dakota. The main goal of the program is to reverse the increasing trend in the number of acres affected by saline soils in eastern ND by directly assisting landowners/operators to improve management in saline areas and raise overall awareness of the detrimental impacts soil salinity can/does have on local economies and natural resources.

3.1 Project Goals

The Eastern North Dakota Soil Salinity Specialist project will promote and demonstrate proper management of saline areas. In particular, local ownership, participation and promotion of the project by stakeholders will be increased by establishing a Salinity Advisory Committee from participating agencies, organizations, and grower groups. This committee will provide the Soil Salinity Specialist with technical oversight on aspects of the demonstration sites and Information and Education activities within the targeted watersheds at a local level.

The Soil Salinity Specialist and/or cooperating partners will inventory a saline demonstration site and the contributing area to identify areas of concern. Then the Soil Salinity Specialist will work with landowners/operators to develop a Salinity Management Plan which meets the landowner/operator needs while accomplishing the project goals. After practice implementation on the demonstration sites, it will be necessary to monitor those sites to measure the success of the practice and the benefits to watershed and soil health. Long-term monitoring (5-10 years) is expected to observe measurable results from saline soil management.

Best management practices (BMPs) will be used by the Soil Salinity Project to assist landowners/operation with improvement and management of saline areas. The ND NPS Pollution Management Program BMP Cost Share Guidelines will be used to determine BMP eligibility and associated 319 cost share policies. The project will continue to identify and apply innovative techniques for saline soil management and adapt existing techniques for use in the state.

There have been several research needs identified that will assist with the effort to slow down the salinization of North Dakota soils. The Salinity Advisory Committee will forward the research needs to the ARS and educational institutions for scientific peer review. Research needs include: continued evaluation of high moisture use cropping systems, incorporation of cover crops into cropping systems, evaluation on the effectiveness of moisture use by different permanent vegetative covers, evaluation and refining of the use of precision agricultural techniques in reducing salinity, development of salt tolerant crops, and an effort to correlate water use by using Moderate Resolution Imaging Spectroradiometer (MODIS) images to determine locations where excess water is in the rooting zone. The reviewers will also evaluate the management component of the Salinity Risk Index (SRI) being developed by the Red River Major Land Resource Area (MLRA) Soils Office.

Prioritization of water bodies within high priority watersheds of the Sheyenne River in Barnes County, the James River in Stutsman and Lamoure Counties, the Rush River in Cass County, the Red River in Grand Forks County, and the Devils Lake Basin in Ramsey County will be the key component of this salinity project proposal. The Section 303(d) list of impaired water bodies with nutrients and eutrophication, fish consumption, recreation, fish and other Aquatic Biota as impairments will have concentrated efforts for saline soil management.

The project will work with cooperating agencies, such as NRCS and FSA, with ongoing monitoring efforts to determine the effectiveness of saline improvement goals, not only in the 319 Program but also in the Conservation Reserve Program (CRP), Agricultural Water Enhancement Program (AWEP), Cooperative Conservation Partnership Initiative (CCPI), Environmental Quality Incentives Program (EQIP) and other USDA programs. Information gained from these assessments would be useful not only to the salinity project, but to other state and federal programs.

Educating basin stakeholders on the benefits of healthy, productive soils and providing training to resource managers will be high priority goals of the project. The project will conduct tours of improvement sites, provide cropland assistance to producers, and create and maintain a web site to offer landowners, cooperators and stakeholders information on the latest in saline soil management. The site will be hosted by the selected RC&D Office.

Information and educational efforts will focus on: 1) enhancing current efforts to provide information and education to landowners on proper use and protection of saline areas by partnering with groups and organizations; 2) providing training to local soil and water resource district staff with workshops and tours; 3) developing a Prairie Public Broadcasting documentary on soil salinity ; 4) participating in basin water quality and management workshops and conferences; 5) supporting existing and future basin wide educational efforts; and 6) distributing information about the project.

3.2 Objectives and Tasks:

Objective 1. Manage the project, coordinate efforts with local entities, and facilitate delivery of assistance.

Task 1: Employ a soil salinity specialist to coordinate delivery of multiple programs involving soil salinity management by combining efforts of the project sponsors and contributing agencies. Utilize staff within the selected RC&D Council or NRCS office, including telephone, supplies and secretarial support. This includes accounting/auditing costs associated with project management.

Products: Position oversight by the RC&D Council, processing reimbursements and general secretarial support provided by the selected RC&D Council.

Cost: $292,500 ($124,500 319 Funds) for 3 years (1.0 FTE).
See Budget Tables 2 and 4.

Task 2: Create and utilize an advisory committee to assist the Soil Salinity Specialist with project oversight. Federal, state, and local agencies and non-governmental organizations will be contacted with expertise in soil science, water quality, forestry, range and pasture management, agronomy, and hydrology in order to provide adequate guidance to project manager.

Products: Advisory Committee. Refer to Appendix I for a list of agencies and organizations who will be asked to serve on the Advisory Committee.

Cost: In-kind match will be tracked, no additional 319 funds requested.

Objective 2. Increase the awareness regarding the financial impacts and detriment to natural resources resulting from increases of saline soil in North Dakota. The main target audience will be Agricultural Producers; Employees from NRCS, SCD's, and Extension; Representatives from Water Resource Districts and North Dakota Legislators; Agronomy Centers; Crop Consultants; and Fertilizer Dealers.

Task 3: Participate with the development of a Prairie Public Broadcasting (PPB) documentary on soil salinity and other issues associated with the degradation of North Dakota soil. The advisory committee shown in Task 2 will be asked to decide topics and sub-topics, people to interview, and develop a set of questions. From the committee a working group of no more than four people will coordinate the project with PPB and will schedule the interviews. The NDDH will be asked to serve on the committee to assure water quality objectives are met.

Products: A PPB documentary informing North Dakota citizens of the issues with soil salinity.

Cost: $73,000 ($21,000 319 funds) to be completed in the second year. $33,000 is cost incurred by NRCS for coordinating the documentary. See Budget Table 2.

Task 4: Conduct workshops and tours in order to increase the awareness and understanding of the salinization of North Dakota soils; and to offer treatment recommendations.

Products: Better awareness and understanding by agricultural growers, natural resource managers, landowners and policy makers of saline soil issues.

Cost: $15,000 (no additional 319 funds requested) See Budget Table 2.

Task 5: Create informational materials to increase the understanding and treatment of the salinization of North Dakota's soils.

Products: Informational materials will include items such as newsletter articles, brochures, and newsletter inserts.

Cost: $9,000 ($3,000 319 funds) See Budget Table 2.

Objective 3. Improve management methods that can be used to reduce salinity and/or manage saline soils in North Dakota.

Task 6: Identify Research Needs in management of saline areas and report to the advisory committee. This could include among others; use of precision agriculture methods, and the use of cover crops and high moisture crop rotations.

Products: Better management techniques to treat saline soils.

Cost: (no additional 319 funds requested)

Task 7: Assist the Red River Valley MLRA NRCS office with improved methods to inventory saline soils in the state, by developing the use of Moderate Resolution Imaging Spectroradiometer (MODIS). The person in the Saline Specialist position will be responsible for keeping partners and agricultural growers informed of this saline soil inventory method and will assist when asked.

Products: Better inventory resources of saline soils in North Dakota.

Cost: Assumed by NRCS, the Agricultural Research Service (ARS), and the Remote Sensing National Lab. (no additional 319 funds requested)

Task 8: Assist the Red River Valley MLRA NRCS office with the development of the soil factors of a Salinity Risk Index (SRI). The management factors of the equation are identified as a research need.

Products: More effective tools to assist natural resource personnel with saline management conservation plans.

Cost: NDSU and NRCS (no additional 319 funds requested)

Objective 4. Demonstrate effective agronomic methods to contain and/or reverse the salinization of soil.

Task 9: Provide technical assistance to establish and monitor demonstration sites with the management of saline areas. A minimum of six fields, sized from 40 to 200 acres, salinity control demonstration sites will be established, at least one in each of the participating RC&D areas. These sites will show effective agronomic management techniques including the inclusion of deep rooted high water use crops, high water use crop rotations and cover crops. The sites will have a saline soil map developed with a Veris Cart provided by NDSU. Soil samples will also be completed by NDSU as needed. Plant tissue analysis will be provided by Ag Vise as needed.

Products: Knowledge on proper management of saline areas on a minimum of six demonstration sites.

Cost: NRCS, NDSU Extension, Soil Conservation Districts, Central Crop Consulting, and Ag Vise (no additional 319 funds requested).

Task 10: Provide financial assistance for practice installation on demonstration sites for effective management of saline areas. All demonstration will be established during FY2010, the first year of project.

Products: Knowledge on proper management of saline areas.

Cost: $60,000 ($20,000 319 funds) See Budget Table 2 and 3.

Objective 5: Provide technical support to local NRCS field offices, SCD staff, 319 watershed coordinators and others providing planning assistance to producers. This person will also provide direct one-on-one planning assistance to agricultural producers when needed.

Task 11:

Products: Six training sessions will result in better trained conservation planners and thus conservation plans that address saline soil management. In addition, agricultural producers will be better informed on methods to better manage saline soil.

Cost: In-kind match will be tracked, no additional 319 funds requested.

3.3 Milestone Table: EASTERN NORTH DAKOTA SOIL SALINITY SPECIALIST PROPOSAL

TASK/RESPONSIBLE ORGANIZATIONS	OUTPUT	QTY	2010					2011						2012					
			01/10			09/10		10/10			09/11			10/11			09/12		
OBJECTIVE 1: Task 1 - Coordinate the delivery of multiple programs.	1.0 FTE - Unified effort to reduce impacts from soil salinity.	1																	
OBJECTIVE 1: Task 2 - Create a salinity partnership and utilize an advisory committee.	Provide guidance to salinity management efforts.	1																	
OBJECTIVE 2: Task 3 - Assist with the development of a PPB documentary on saline soil.	Increase awareness of salinity issues in the region.	1																	
OBJECTIVE 2: Task 4 - Conduct saline soil workshops and tours.	Increase awareness of salinity issues in the region.	6																	
OBJECTIVE 2: Task 5 - Create informational materials.	Increase awareness of salinity issues in the region.	9																	
OBJECTIVE 3: Task 6 - Identify research needs and report to partnership.	More effective treatments of saline soils.	1																	
OBJECTIVE 3: Task 7 - Assist with the development of better saline soil inventories.	Better inventory of saline soils in the state.	1																	
OBJECTIVE 3: Task 8 - Assist with the soil factors of the Salinity Risk Index (SRI) equation.	Better tools to manage saline soils in the state.	1																	
OBJECTIVE 4: Task 9 - Establish and monitor demonstration sites for effective salinity management.	Establish six demonstration sites.	6																	
OBJECTIVE 4: Task 10 - Install conservation practices on demonstration sites.	Install conservation practices on six demonstration sites	6																	
OBJECTIVE 5: Task 11 - Provide Technical Assistance to Field Office Staff and Agricultural Producers.	Provide Technical Assistance to Field Office and Producers.	6																	

3.4 Lead Agency: A RC&D Council will be the lead project sponsor. RC&D councils provide a direct link to landowners and local elected officials who have the responsibility to manage soil and water resources.

The project will be directed by a Soil Salinity Specialist funded by federal and local dollars, with a close working relationship with the eastern North Dakota RC&D Councils, and supervised by an NRCS soil specialist. The new hire will be trained in the field of soil science with an emphasis in soil salinity, and have a working knowledge of all agronomic practices.

3.5 Roles/Responsibilities for Proper Oversight and Management of BMPs: During the project period of performance, RC&D Councils will be responsible for ensuring project participants comply with all aspects of the NPS 319 Program. Procedures in the North Dakota NPS Management Program Cost-share Guidelines for NPS Control BMPs (May 2008) will be adhered to.

4.0 COORDINATION PLAN:

4.1 Lead Project Sponsor and Cooperating Organizations: This proposal is sponsored by the Northern Plains RC&D Council, Sheyenne James RC&D Council, Red River Regional Council (RRRC), and Lake Agassiz Regional Council (LARC). The Red River RC&D Committee; and the Lake Agassiz RC&D Committee are subcommittees of the Regional Councils assigned with oversight responsibilities. Upon selection of the best qualified candidate, the candidate will be placed in an RC&D council that is suitable for the candidate to balance their work and personal life. That council will be the lead project sponsor and will be responsible for coordination of the project. As such, the selected RC&D council will contract with the ND Department of Health (NDDH) and develop and oversee subcontracts with the project partners to complete the work described in this proposal. The selected RC&D council will be responsible for all financial aspects of the project including requesting reimbursement from the NDDH, payments to subcontractors, cost-share disbursements to participants, identification and tracking of cash-match and in-kind assistance from local sources, and overall project accounting. Specific responsibilities of the Soil Salinity Specialist will include coordinating with project personnel, drafting and administering subcontracts, reporting progress to the selected RC&D council, overseeing financial reporting, submitting semi-annual, annual, and final reports, leading information and education activities, representing and promoting the Eastern North Dakota Salinity Specialist Project, and coordinating with other basin environmental and water management efforts in eastern North Dakota. This person will provide technical support to local NRCS field offices, SCD staff, 319 watershed coordinators and other conservation planners providing planning assistance to producers, and will provide direct one-on-one planning assistance to agricultural producers when needed. Six training sessions will result in better trained conservation planners and thus conservation plans that address saline soil management. In addition, agricultural producers will be better informed on methods to better manage saline soil.

The NRCS will provide technical assistance to the project through involvement on the advisory committee. In addition, they will distribute USDA incentives program dollars within reaches targeted for improvement. A commitment letter from NRCS is pending.

4.2 Local Support for a Soil Salinity Specialist: The Eastern North Dakota Salinity Specialist Project proposal is supported locally by North Dakota landowners, county water resource boards, soil conservation districts, Red River Basin Commission and communities.

4.3 Coordination with Other Pertinent Programs: Education and training initiatives of the salinity project support other 319 watershed projects. The project has also cooperated with the Natural Resources Conservation Service (NRCS) to further watershed education, resource manager training, and research activities in the basin and will continue to coordinate these activities. The NRCS provides many opportunities for cooperation on salinity management. The salinity project will assist with delivery of the Environmental Quality Incentives Program (EQIP) and Continuous CRP throughout the basin. The project will also work directly with NRCS personnel to plan and implement several salinity management projects. This proposal will continue collaboration as the farm bill provides additional funding for programs such as Conservation Stewardship Program (CSP), Farmland Protection Program (FPP), Wetlands Reserve Program (WRP), Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), Agricultural Water Enhancement Program (AWEP), Cooperative Conservation Partnership Initiative (CCPI), Conservation Reserve Program (CRP), and Continuous CRP. Other programs for partnership opportunities include the Red River Tile Drain Assessment, the Devils Lake EQIP Special Initiative and the Salinity Trials at the Carrington Research Extension Center. This person will provide technical support to local NRCS field offices, SCD staff, 319 watershed coordinators and others providing planning assistance to producers. Six training sessions will result in better trained conservation planners and thus conservation plans that address saline soil management. In addition, NRCS will partner with funding the Soil Salinity Specialist Position. The project will also be cooperating extensively with non-governmental organizations such as numerous grower groups in the state and crop consulting organizations.

4.4 Similar Activities: This project will work closely with the Devils Lake Basin EQIP Special Initiative Project. In addition, the project specialist will review programs that have been effective in other states and countries and make a recommendation to the Salinity Advisory Committee on applicability to North Dakota. Research activities conducted in other state and countries will also be reviewed. Coordination with NRCS and NDDH is described in Section 4.3.

5.0 EVALUATION AND MONITORING PLAN:

5.1 Evaluate Project Goal, Objectives and Tasks: The Soil Salinity Specialist will submit annual reports to the Salinity Advisory Committee, RC&D Councils, and the NDDH describing progress on goals, objectives and tasks.

5.2 Monitoring: A salinity monitoring guide will be developed for the project demonstration sites. Monitoring efforts will focus on improvement in vegetative growth of impacted saline areas, measurement of saline soil from selected sites. A partnership with NDSU Extension will be developed to take salinity measurements prior to the installation of the demonstration sites. Measurements will be retaken every two years to determine if there are impacts to soil salinity resulting from the demonstrations. Vegetative tissue samples will be collected and sent to Ag Vise for analysis. Photo points will also be taken before the demonstrations are established. When possible, project staff will also coordinate with the NDDH and cooperating producers to collect water quality data from the demonstration sites. The feasibility for monitoring and the specific methods will be determined on a case-by-case basis.

5.4 Monitoring Strategy: Monitoring methods will be completed to determine if information and education (I&E) efforts are effective. The number of people attending events; as well as exit surveys and evaluations at the events will be the primary methods to determine effectiveness of the project. There will be at least two I&E events conducted annually. The targeted audiences are agricultural growers, landowners, natural resource professionals, city, county and state employees as well as elected and appointed officials.

5.5 Data Management: Data collected from monitoring efforts will be used to evaluate project progress as well the success of salinity reduction as the result of the BMP's applied. Data will also be managed and reported via GIS where ever possible. Reports of project monitoring results will be available for each demonstration at the end of the project period. These reports and any interim reports will be made available and shared with other agencies and projects conducting current and future soil salinity management within the region. Project evaluations will be conducted on a continuing basis by the member agencies of the Salinity Advisory Committee as well as the RC&D Councils.

5.6 Models Used: Other successful efforts to reduce impacts from soil salinity in Canada and Montana will be review and adapted if applicable as determined by the Salinity Advisory Committee.

5.7 Long-term funding plans for the Operation and Maintenance (O&M): Ultimately the landowner is responsible for the operation and maintenance of reclaimed sites, guidelines will be provided to participating landowners. Reasonable short-term O&M, five years or less, will be provided by the project.

6.0 BUDGET: See Budget Tables Below.

Table 1:MATCHING FUNDS	FY 10	FY 11	FY 12	TOTAL
EPA Section 319 Funds				
FY2010 Funds (FA)	$42,000	$1,000	$1,000	$44,000
FY2010 Funds (TA) FTE	$41,500	$41,500	$41,500	$124,500
Sub-total	**$83,500**	**$42,500**	**$42,500**	**$168,500**
Other Federal Funds				
NRCS (TA)	$56,000	$56,000	$56,000	$168,000
NRCS (FA)	$32,667	$2,667	$2,666	$38,000
Sub-total	**$88,667**	**$58,667**	**$58,666**	**$206,000**
State/Local Match				
SCD (FA)	$21,000	$6,000	$6,000	$33,000
Cooperative Extension (FA)	$17,000	$5,000	$17,000	$39,000
Private NGO's (FA)	$5,295	$3,000	$2,000	$10,295
Landowner - (FA)	$20,295	$5,000	$5,000	$30,295
Sub-total	**$63,590**	**$19,000**	**$30,000**	**$112,590**
PROJECT TOTALS	**$235,757**	**$120,167**	**$131,166**	**$487,090**

Footnotes:

FA: Financial Assistance; TA: Technical Assistance

FA Funds requested for FY2010 for installation of demo sites; see page 11, Objective 4.

NRCS: Natural Resources Conservation Service

SCD: Soil Conservation Districts

Private NGO's to provide seed and other assistance for demonstration sites

Table 2: FISCAL YEAR	FY10	FY11	FY12	TOTAL COSTS	CASH MATCH	IN-KIND MATCH	319 FUNDS	OTHER FED FUNDS
Objective 1: Project Management								
Task 1: Program Coordination								
Salary & Fringe Benefits	$80,000	$80,000	$80,000	$240,000			$120,000	$120,000
RC&D Project Support (Accounting Costs)	$1,500	$1,500	$1,500	$4,500			$4,500	
Office Rent	$6,000	$6,000	$6,000	$18,000				$18,000
Supplies	$2,000	$2,000	$2,000	$6,000				$6,000
Equipment/Computer	$3,000	$3,000	$3,000	$9,000				$9,000
Vehicle	$5,000	$5,000	$5,000	$15,000				$15,000
Task 2: Create and utilize an Advisory Committee	$3,000	$3,000	$3,000	$9,000		$9,000		
Subtotal Objective 1	**$100,500**	**$100,500**	**$100,500**	**$301,500**	**$0**	**$9,000**	**$124,500**	**$168,000**
Objective 2: Increase awareness								
Task 3: PPB documentary	$70,000			$70,000	$14,000	$5,000	$21,000	$30,000
Task 4: Conduct Workshops and Tours	$5,000	$5,000	$6,000	$16,000	$5,000	$6,000	$0	$5,000
Task 5: Create Informational Materials	$3,000	$3,000	$3,000	$9,000	$3,000		$3,000	$3,000
Subtotal Objective 2	**$78,000**	**$8,000**	**$9,000**	**$95,000**	**$22,000**	**$11,000**	**$24,000**	**$38,000**
Objective 3: Improve Management Methods								
Task 6: Identify Research Needs	$0	$0	$0	$0				
Task 7: Assist with improved inventory methods	$0	$0	$0	$0				
Task 8: Assist with management factors for SRI	$0	$0	$0	$0				
Subtotal Objective 3	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Objective 4: Demonstration Sites								
Task 9: Establish & Monitor Demonstration Sites	$12,000	$6,000	$12,000	$30,000	$10,000	$20,000		
Task 10: Install Demonstration Practices (50% C/S)	$30,590	$15,000	$15,000	$60,590	$30,295	$10,295	$20,000	
Subtotal Objective 4	**$42,590**	**$21,000**	**$27,000**	**$90,590**	**$40,295**	**$30,295**	**$20,000**	**$0**
Objective 5: Tech support to offices/producers								
Task 11: Conduct training sessions	**$0**	**$0**	**$0**	**$0**				
Subtotal Objective 5	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL PROJECT	**$221,090**	**$129,500**	**$136,500**	**$487,090**	**$62,295**	**$50,295**	**$168,500**	**$206,000**

Footnote: NRCS Cost for Task 3 for coordinating the documentary; cash match to be determined.
In-Kind Cost for practice installation will come from donated cover crop and alfalfa seed.
NRCS funds contributed to the project do not require a match.

Total Match:	**$112,590**
Required Match:	**$112,436**

Note: Required match is calculated for non-NRCS costs.
$487,090 - $206,000 = $281,090 x 40% = $112,436

TABLE 3 **EASTERN NORTH DAKOTA SALINITY SPECIALIST PROJECT**
Selected Best Management Practices (BMPs)

								FUNDING			
Land Use Code	**NRCS Code**	**Practice**	**No.**	**Acres**	**Hundred Linear Feet (hlnft)**	***Rate***	**TOTAL**	**Cost-share**	**Cash Costs**	**In-kind Costs**	**319 Match**
		Soil Salinity Management									
1	328	Conservation Cropping Rotation		1,800		*NCP*			$ -		**$ -**
1	329A	Residue Management, No Till/Strip Till		1,800		*NCP*			$ -		**$ -**
1	329B	Residue Management, Mulch till		1,800		*NCP*			$ -		**$ -**
1	340	Cover Crop		1,800		*$20.00*	$36,000	50%	$18,000	$8,670	**$9,330**
1	386	Field Borders		100		*$20.00*	$2,000	50%	$1,000	$200	**$800**
1	390	Riparian Herbaceous Cover		10		*$300.00*	$3,000	50%	$1,500	$400	**$1,100**
1	472	Use Exclusion		100		*$20.00*	$2,700	50%	$1,350		**$1,350**
1	393	Filter Strip		20		*$125.00*	$2,500	50%	$1,250		**$1,250**
1	512	Pasture & Hayland Planting		150		*$35.00*	$5,250	50%	$2,625	$625	**$2,000**
1	590	Nutrient Management (Precision Ag)		1,000		*$5.00*	$5,000	50%	$2,500		**$2,500**
1	595	Pest Management		1,000		*NCP*			$0		**$0**
1	610	Salinity & Sodic Soil Management		150		*$20.00*	$3,000	50%	$1,500	$400	**$1,100**
		Subtotal					**$59,450**		**$29,725**	**$10,295**	**$19,430**
		Windbreak Plantings									
1	380	Windbreak/Shelterbelt Establishment			60	*$19.00*	$1,140	50%	$570		**$570**
		Subtotal					**$1,140**		**$570**		**$570**
		TOTALS					**$60,590**		**$30,295**	**$10,295**	**$20,000**

Land Use Codes: 1 = Cropland 2 = Pasture Hayland 3 = Rangeland 4 = Farmstead/Misc

NOTE: Inkind costs will be donated seed.

7.0 PUBLIC INVOLVEMENT

Public involvement in the Soil Salinity Project will be assured through the involvement of advisory committees and oversight of project activities by the RC&D Councils in eastern North Dakota. Furthermore, local participation is an integral part of the development and prioritization of the delivery mechanism for this project.

Appendix I: ADVISORY COMMITTEE

(Organizations/Agencies that will be asked to serve on the committee)

Natural Resources Conservation Service
Two appointed by Agency

North Dakota Department of Health
Two appointed by Department

Cooperative Extension Service
Tom DeSutter, Ron Weiderholt

Resource Conservation & Development
Northern Plains RC&D – Paul Overby
Lake Agassiz RC&D – Richard Faught

Crop Consultants
Lee Briese, Central Crop Consulting, Edgedley
Jason Hanson, Independent, Webster
Shawn Kaspcrick, Simplot, Grafton

SCD
Grand Forks SCD
Griggs SCD

State Water Commission
Appointed by Commission

Red River Joint Water Resource District
Appointed by District

Devils Lake Joint Water Resource District
Appointed by District

ND Department of Agriculture
Appointed by Department

ND Farm Bureau
Appointed by Bureau

ND Farmers Union
Appointed by Union

Appendix II: SOIL SALINITY PROJECT – LIST OF SUPPORTERS

List of Supporters

- Commodity Groups
  - Minn-Dak Sugar Beet Cooperative
  - Crystal Sugar
  - North Dakota Corn Growers
  - North Dakota Grain Growers
  - North Dakota Soybean Association
  - National Sunflowers Association (Bismarck, ND)
  - North Dakota Oilseed Council
  - North Dakota Crop Improvement Association (Mandan, ND)
  - Northern Plains Potato Growers (Hoople, ND)
  - North Dakota Potato Council Hensel, ND)
  - North Dakota Dry Edible Bean Seed Growers Association (Portland, ND)
  - North Dakota State Seed Association
  - North Dakota State Dry Bean Council
  - North Dakota Barley Council
  - Red River Valley Sugar Beet Grower's Association
- North Dakota Stockman's Association
- North Dakota Agriculture Association
- North Dakota Association of Soil Conservation Districts
- North Dakota RC&D State Association
- North Dakota FSA State Office
- North Dakota State Soil Conservation Committee
- North Dakota Water Resource Districts
- Lake Region State College
- North Dakota State University Extension
- North Dakota Agricultural Experiment Station
- Mandan ARS Station
- North Dakota Department of Health
- North Dakota Farmers Union
- North Dakota Farm Bureau
- North Dakota State Water Commission
- North Dakota Department of Agriculture
- North Dakota Forest Service
- North Dakota League of Cities
- North Dakota Association of Counties
- Natural Resources Conservation Service
- Lake Agassiz RC&D
- Red River RC&D
- Northern Plains RC&D
- Sheyenne James RC&D

Appendix III

JOB DESCRIPTION:

Job Title: Eastern North Dakota Soil Salinity Specialist

Supervised by: NRCS Soil Specialist

Job Purpose: This position serves as a Soil Salinity Specialist, and will be responsible for the coordination of soil salinity mitigation efforts. The incumbent will be responsible for increasing an awareness of salinity issues and promoting land use changes that will reduce and/or contain the salinization of soils in North Dakota, with an emphasis in eastern North Dakota.

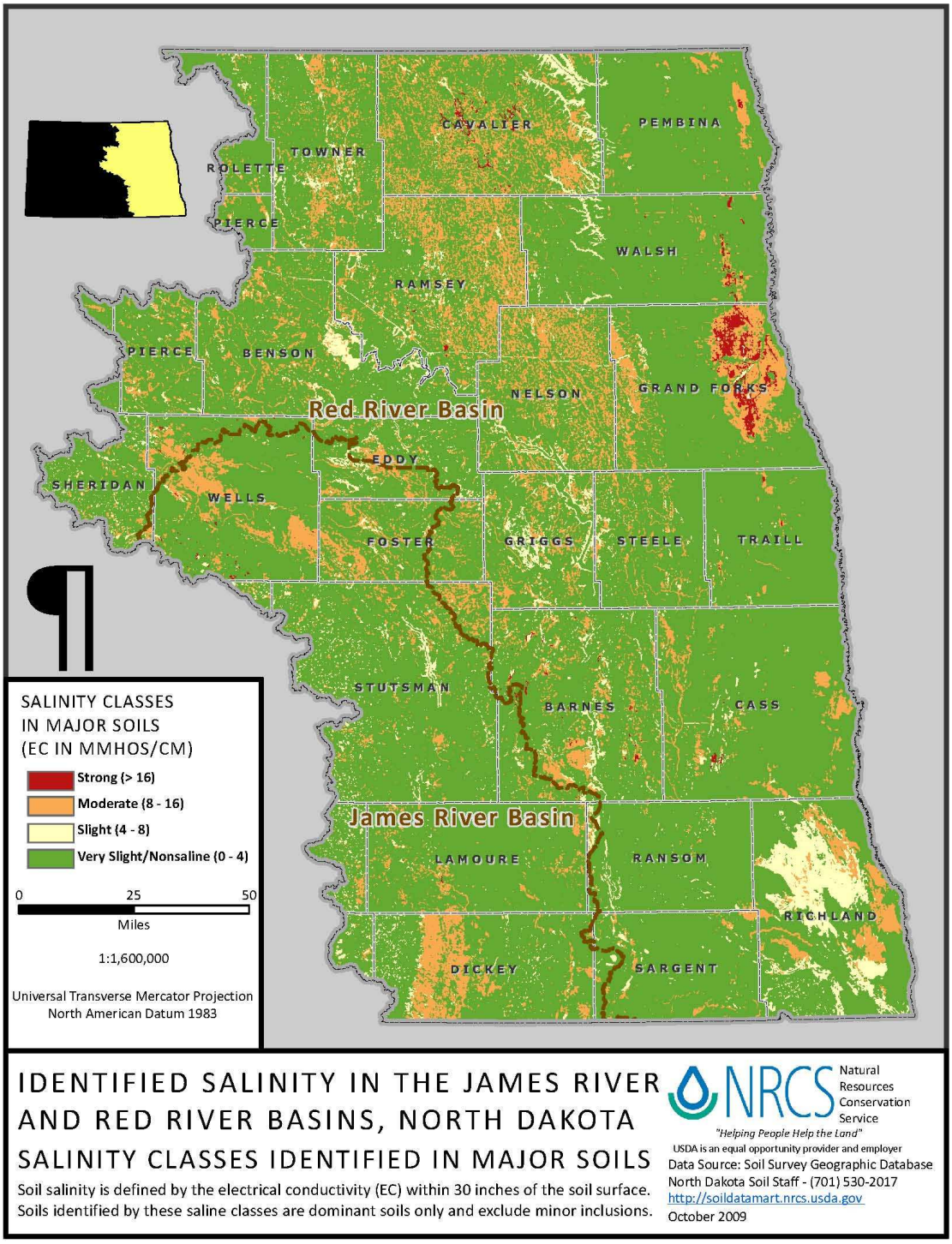
Specific Responsibilities:

1. Represent the Eastern North Dakota Soil Salinity Project to stakeholders in the project area.
2. Plan and prepare for meetings of the Salinity Advisory Committee.
3. Report project progress to RC&D Councils approval process for expenditures.
4. Prepare articles for newsletters and news releases about the project.
5. Seek in-kind and cash match contributions.
6. Oversee financial reporting.
7. Prepare and submit semi-annual, annual, and final reports.
8. Inform and educate basin stakeholders and natural resource professionals on the benefits of healthy soil.
9. Establish, monitor and manage salinity demonstration sites.
10. Act as primary contact with landowners while planning and assisting with the implementation of improvement and management efforts.
11. Develop crop management and saline soil improvement plans.
12. Provide guidance to participating water resource and soil conservation districts.
13. Training local conservation planners such as NRCS staff, 319 coordinators and SCD staff.

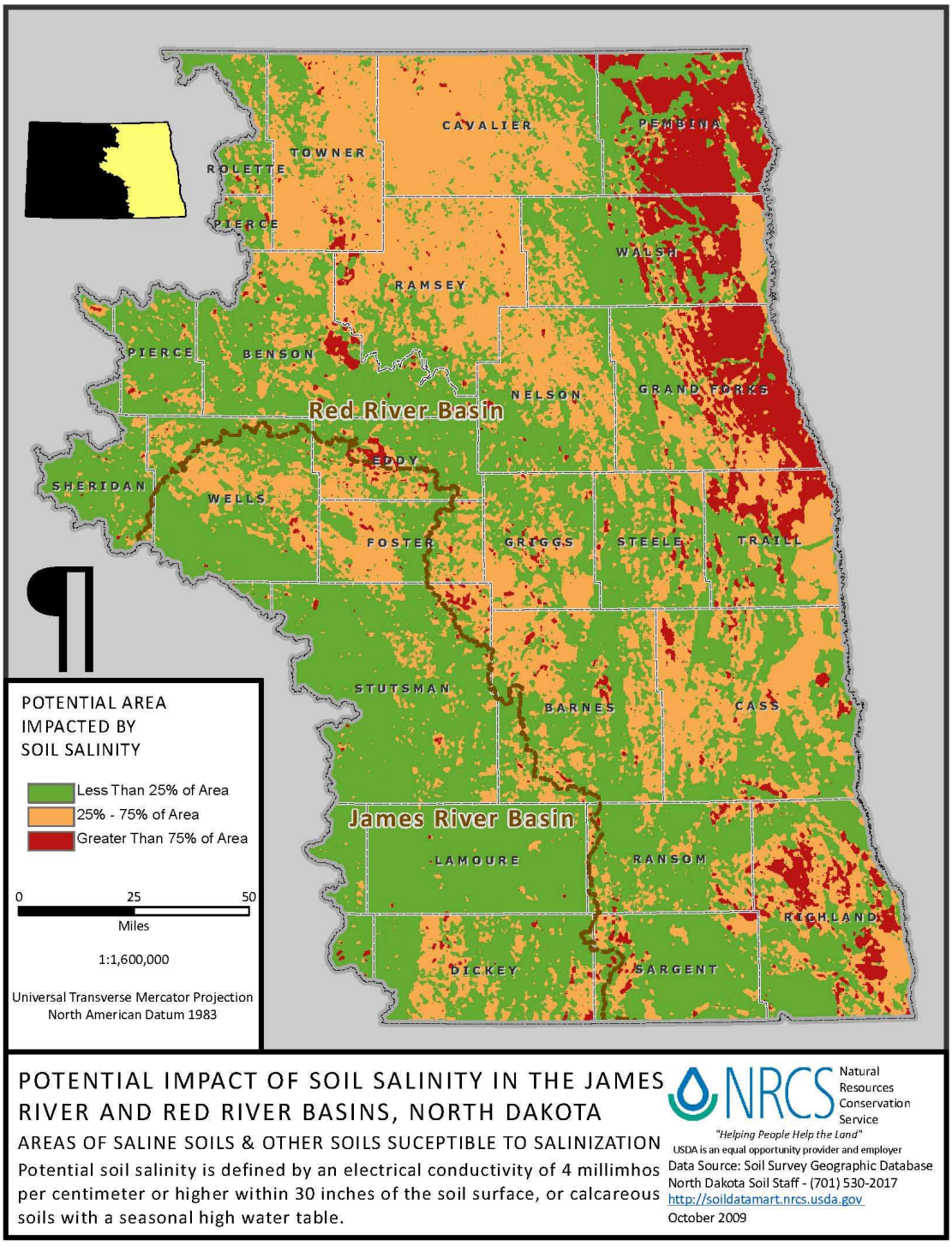
Knowledge, Skills and Abilities:
Promptness in arriving at work, attending meetings, etc; skills in analyzing and organizing information for presentation to audiences and in-kind reports; working knowledge of computer programs for word processing and spreadsheets, Internet, geographic information systems, and graphic displays; current knowledge of soil salinity and agricultural best management practices, improvement and monitoring techniques.

Physical and Mental Activities:
Ability to communicate (verbal and written) effectively with board members, public officials, agency staff, and the general public; ability to use general office equipment; outreach, ability to interpret technical information, willingness to travel, maintain good working relationships, accept changing responsibilities, ability to drive an automobile; ability to work in the field, carry light equipment, and wear protective clothing or gear.

Attachment A: Identified Salinity in Eastern North Dakota



Attachment B: Potential impact of Soil Salinity in Eastern North Dakota



Letters of Support

Red River Resource Conservation & Development
Chase Building
516 Cooper Avenue Suite 101
Grafton, ND 58237
(701)-352-0127

July 24, 2009

North Dakota Department of Health
c/o Greg Sandness, NPS Pollution Manager
Gold Seal Center
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Dear Mr. Greg Sandness,

On behalf of the Red River Resource Conservation & Development (RC&D) Council, please accept this as a letter of support for the 319 grant project proposal for the Eastern North Dakota Soil Salinity Specialist position.

Our council members, as well as many local producers, are very troubled by the increase of saline soils in our region. We are concerned about the impacts salinity has on our agricultural communities, water quality, soil heath, and the potential current and future economic losses in the region. We feel that the time is now to take action to begin increasing awareness and educating the people in our region about saline soils and its many impacts. There is a strong need to promote better saline soil management methods in our agricultural communities and we are excited about the demonstration sites that are proposed in the 319 grant project proposal. The Eastern North Dakota RC&D Councils will use the Soil Salinity Specialist Position and our many partners to lead this effort.

We appreciate your consideration of this 319grant project proposal and our representatives look forward to meeting with your Task Force on September 10th, 2009.

If we can assist you in anyway or you need further information, please do not hesitate to contact our council or Gwen Sobolik, RC&D Coordinator, if you have any questions.

Yours in Conservation,

Vernon Russum

Vernon Russum, Chairman
Red River RC&D

Northern Plains
Resource Conservation & Development Office

Serving Rolette, Towner, Cavalier, Ramsey, Benson, and Eddy Counties.

706 8th Ave SE, Suite #6, Devils Lake, ND 58301
Phone (701) 662-7956 ext 6, Fax (701) 662-4172

July 27, 2009

ND Department of Health
c/o Greg Sandness, NPS Pollution Manager
Gold Seal Center
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Dear Mr. Greg Sandness,

On behalf of the Northern Plains Resource Conservation & Development (RC&D) Council, Inc. please accept this as a letter of support for the Eastern North Dakota Soil Salinity Specialist Position 319 grant project proposal.

Our council members, local soil conservation districts, as well as many local producers, are extremely concerned by the impacts of increasing saline soils in our RC&D area. The Northern Plains RC&D area consists of Benson, Cavalier, Eddy, Ramsey Rolette and Towner counties. The Devils Lake Basin makes up a large portion of the Northern Plains RC&D area. This lake has risen more than 25 feet over the past 17 years. Rising waters and increasing water pressure from the lake have caused the surrounding agricultural lands to become excessively wet, and as a result, the acreage of saline soils has increased dramatically. In 2007 the Northern Plains RC&D Council, recognized the impact soil salinity was having on the Devils Lake Basin, so we worked with four Soil Conservation Districts to establish an EQIP Salinity Special Initiative. The program has expanded to seven counties but additional work is needed to increase awareness of soil salinity and monitor and evaluate management practices for success. The Eastern North Dakota Soil Salinity Specialist Position would greatly enhance the potential for success of this locally led effort bringing regional awareness to the issues.

Thank you for your consideration of this request. If you have any questions regarding this letter or would like further information please do not hesitate to contact our council or our coordinator, Jill Haakenson at 701-662-7956 ext. 6.

Sincerely,

ROBERT CURL
Northern Plains RC&D President

SHEYENNE JAMES RESOURCE CONSERVATION AND DEVELOPMENT COUNCIL, INC.
1301 BUSINESS LOOP EAST
JAMESTOWN, ND 59401

July 27, 2009

ND Department of Health
c/o Greg Sandness, NPS Pollution Manager
Gold Seal Center
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

Dear Mr. Greg Sandness,

On behalf of the Sheyenne James Resource Conservation & Development (RC&D) Council, Inc. please accept this as a letter of support for the 319 grant project proposal for the Eastern North Dakota Soil Salinity Specialist Position.

Our council members, as well as many local producers, are very concerned by the natural resource and economic impacts of the increase of saline soils in our RC&D area. The Sheyenne James RC&D area consists of Wells, Foster, Griggs, Stutsman, Barnes, LaMoure, Logan, McIntosh and Dickey counties. These counties have seen a significant increase in saline acres since the 1990s. This increase is very alarming since all of the communities in the RC&D rely on agriculture for their economic base. Sustainable agriculture is a must in our area therefore improving water quality and soil health will improve help sustain our economy. We know that there are huge economic losses due to increased salinity in the Sheyenne James RC&D Council Area. These natural resource and economic losses will continue until we can find management practices that will reduce and manage those saline areas in our area. We need all the tools that we can get to reduce soil salinity in our area.

We believe that it is time to take action and increase awareness of soil salinity and do some demonstration sites to show producers and the public ways to improve salinity in our area therefore improving water quality.

I hope you find this information helpful feel free to contact our coordinator, Carol Peterson, at 701-252-2521 Ex. 126 if you have any questions on our involvement in this project.

Sincerely,

Diane Olson
Secretary/Treasurer, Sheyenne James RC&D Council, Inc.

Lake Agassiz Resource Conservation & Development
417 Main Ave.
Fargo, ND 58103-1909
(701) 239-5373

July 22, 2009

Greg Sandness
NPS Pollution Control Manager
North Dakota Department of Health
918 East Divide Avenue, 4th Floor, Gold Seal Center
Bismarck ND 58501-1947

RE: Eastern North Dakota Soil Salinity Specialist

Dear Mr. Sandness,

On behalf of the Lake Agassiz Regional Council, we are requesting the 319 Task Force consider our proposal for a soil salinity specialist for the eastern portion of North Dakota.

We are anticipating a soil salinity partnership to address a much needed effort to reverse the salinization of soils in North Dakota. Initiatives such as this are needed to show how federal, state and local governments can partner with the private sector and landowners to improve natural resources and water quality in our state for future generations.

We sincerely hope the task force will consider our proposal and we look forward to the continued working relationship with the North Dakota Department of Health.

Sincerely,

Nolan Verwest

Nolan Verwest, Chairman
Lake Agassiz Regional Council

Fischer, Steve - Fargo, ND

From: James Schmidt [tjschmidt@extendwireless.net]
Sent: Thursday, August 06, 2009 8:45 AM
To: Fischer, Steve - Fargo, ND
Cc: Flores, JR - Bismarck, ND; Russell, Jack - Bismarck, ND
Subject: Salinity Position

Steve,
On be half of the North Dakota Resource Conservation and Development Association, we fully support the creation of a professional salinity position to provide technical assistance to landowners so that they may better manage their lands that have salinity issues. This effort is consistent with the goals and objectives of the Resource Conservation and Development program.

We understand that the position will focus on saline issues related to eastern North Dakota and then expand to the remaining areas of the State as requested.

We thank you for initiating this effort as the increasing acreage being lost to salinity results in economic and environmental losses that cannot easily, if at all, be recovered.

Sincerely,
Jim Schmidt
President
North Dakota Resource Conservation and Development Association

Fischer, Steve - Fargo, ND

From: Sobolik, Gwen - Grafton, ND
Sent: Tuesday, August 11, 2009 9:55 AM
To: Fischer, Steve - Fargo, ND; Peterson, Carol - Jamestown, ND; Haakenson, Jill - Devils Lake, ND
Subject: FW:

See the below support letter from the GF Water Resource District!

Gwen L. Sobolik
USDA - NRCS
Red River Resource Conservation & Development Coordinator
516 Cooper Avenue, Suite 101
Grafton, ND 58237
Phone: 701-352-0127
Fax: 701-352-3015
Email: gwen.sobolik@nd.usda.gov

From: Rich and Karen Axvig [mailto:axvigracing@hotmail.com]
Sent: Wednesday, August 05, 2009 8:15 PM
To: Sobolik, Gwen - Grafton, ND
Subject:

Hello Gwen,

I am writing in regard to the letter the water board received from Vern Russum on August 1, 2009.

The Grand Forks County Water Resources District is in full support of a 319 grant to fund a position for Soil Salinity Specialist in eastern North Dakota. We are very interested in the salinity issues in our county due to the large increase in tile drainage. We would appreciate a visit from a staff person with the Red River RC&D office to discuss this proposal in greater detail.

Our support is non-financial at the present time but are eager to hear and learn more about this effort to manage saline soils. It was a goal of mine as District Conservationist of Grand Forks County but was never able to carry it to this level.

Thanks for sending us the info.

Rich Axvig

Lake Region
STATE COLLEGE
1801 College Drive North, Devils Lake ND 58301-1598
(701) 662-1600 • fax (701) 662-1570 • 1-800-443-1313
TDD (701) 662-1572 • www.lrsc.nodak.edu

09/03/09

Vernon Russum, Chairman
Red River RC&D
516 Cooper Avenue, Suite 101
Grafton, North Dakota 58273

Dear Mr. Russum:

Lake Region State College, and its Dakota Center for Technology-Optimized Agriculture, heartedly endorse the 319 Grant Project Proposal submitted to the North Dakota Department of Health by your agency on behalf of the Lake Agassiz, Sheyenne James, Red River, and Northern Plains Resource Conservation & Development Councils. You have proposed an exceedingly important project, in part because it will address salinity within agricultural production systems, in part because it addresses the wider environmental issues associated with movement of ground water in and through saline soils of the northern high plains, and in part because it also responds to legitimate concern expressed by our Canadian neighbors to the north.

Your proposal is most timely, for it funds a salinity expert who can assist in identifying promising approaches to address this problem, and also formulate useful hypotheses that collectively might be addressed by several of our collaborating agencies. Finding and promoting useful agronomic management practices that actually mitigate saline soil development would benefit thousands of high plains farmers and ranchers within our state while also addressing other pressing concerns.

Please contact us upon notification of award. We wish to collaborate with you in a helpful manner. And, be assured of our continued support of your collective good effort.

Sincerely,

Mike Bower, Ph.D.
Dr. Mike Bower
President

North Dakota Farm Bureau
Bringing ag home

1101 1st Ave. N., Fargo, ND 58102
P.O. Box 2064, Fargo, ND 58107-2064
Phone: 701-298-2200 • 1-800-367-9668 • Fax: 701-298-2210

4023 State St., Bismarck, ND 58503
P.O. Box 2793, Bismarck, ND 58502-2793
Phone: 701-224-0330 • 1-800-932-8869 • Fax: 701-224-9485

September 30, 2009

Red River RC&D
Attn: Vernon Russum
516 Cooper Avenue, Suite 101
Grafton, ND 58273

Dear Mr. Russum:

The North Dakota Farm Bureau Board of Directors met on September 15, 2009. One of the issues addressed was a soil salinity specialist position.

The North Dakota Farm Bureau Board of Directors encourages and supports a grant project to fund a Soil Salinity Specialist position to address salinity problems in North Dakota. The Board is aware that there is an increasing amount and distribution of soil salinity in our state.

Managing salinity will increase the productivity and profitability of agricultural land and thus improve the economics of the landowner and/or operator. This will in turn increase the economy of the state. A soil salinity specialist will provide the opportunity to disseminate the most cost effective ways to treat soil salinity. This information can be provided to landowners through educational materials and on ground demonstration projects.

We support the proposal submitted for EPA 319 funding and other sources as may be appropriate.

Sincerely,

Eric Aasmundstad

Eric Aasmundstad, President
North Dakota Farm Bureau

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

August 7, 2009

Mr. Vernon Russum
Red River RC&D
516 Cooper Avenue, Suite 101
Grafton, ND 58273

Dear Mr. Russom:

Regarding your request for a letter of support for the FY 319 2010 grant project proposal "Eastern North Dakota Soil Salinity Specialist," my staff has reviewed the proposal and we concur with your assessment on the seriousness of the problem of increasing soil salinization in our state. While large-scale flooding has been a highly visible acute problem resulting from the wet climate shift that began in 1993, many less visible chronic problems have also developed. High water tables have caused problems in many areas of eastern North Dakota. Soil salinization is one of those problems. Efforts to increase awareness of the problem and to provide management solutions are certainly needed. I therefore support your proposal.

Sincerely,

Dale Frink
State Engineer

DF:BS:LK:ds

NORTH DAKOTA ASSOCIATION OF SOIL CONSERVATION DISTRICTS
OWNER AND OPERATOR OF LINCOLN-OAKES NURSERIES

3310 University Drive
Bismarck, ND 58504
(701) 223-8518 • (701) 223-1291 fax

PRESIDENT
James Teigen

EXECUTIVE DIRECTOR
Thomas Hanson
ndascd@btinet.net

August 27, 2009

Mr. Greg Sandness
ND Dept. of Health
918 E. Divide Ave.
Bismarck, ND 58501-1947

Dear Mr. Sandness:

The North Dakota Association of Soil Conservation Districts endorses the proposal submitted to the 319 Non-point Source Pollution grant program from the four RC&D councils entitled "Eastern North Dakota Soil Salinity Specialist." The proposal addresses a problem which we feel is growing in scope and severity throughout North Dakota but is becoming an economic calamity for producers in eastern North Dakota. We also see this project as a potential springboard and base for future efforts to address the problem statewide.

Thank you for the opportunity to offer our support for this project.

Sincerely yours,

Tom

Thomas Hanson
Executive Director

TH/kh

NORTH DAKOTA
Farmers Union

PO Box 2136 • 1415 12th Ave SE
Jamestown, ND 58401
800-366-8331 • 701-252-2341
ndfu.org

August 14, 2009

Vernon Russum
Red River RC & D
516 Cooper Avenue Suite 101
Grafton ND 58273

Re: Support for FY 2010 319 Grant Project Proposal

Dear Mr. Russum,

We received and reviewed the 319 Grand Project Proposal. North Dakota Farmers Union supports the Lake Agassiz Resources Conservation & Development Council in their efforts to address the issues regarding the increase of saline soils in North Dakota.

I commend the council on taking this proactive approach to educate and develop solutions to this problem.

It is important that we encourage and educate others about the increases of saline soils in North Dakota because the adverse effects could be detrimental to agriculture, natural resources and our economy.

We all have a stake in seeking solutions and concepts that would help mitigate the risks to our environment into the future.

Please keep NDFU informed on the status of this project. Thank you.

Sincerely,

NORTH DAKOTA FARMERS UNION

Robert L. Carlson
President

RLC:lb

NORTH DAKOTA
GRAIN GROWERS

www.ndgga.com

Working for you, the producer!

August 16, 2009

Mr. Vernon Russum
Red River RC&D
516 Cooper Avenue, Suite 101
Grafton, North Dakota 58273

Dear Vernon,

I write on behalf of the North Dakota Grain Growers Association to voice our support for your 319 grant proposal for a Eastern North Dakota Soil Salinity Specialist. The saline soil issue is a growing concern for the wheat and barley producers of North Dakota; this grant providing a soil salinity specialist for eastern North Dakota is an essential step in addressing the problem.

The increase of saline soils in our state is alarming; the adverse economic impacts they create can be staggering to an agriculturally based rural economy. If left unchecked the saline soil issue can permanently spoil productive farmland to the detriment of all. The funding of a saline soils specialist is a will heighten awareness of the problem and the position will serve as a focal point in addressing the issue.

Land stewardship is an essential ingredient in a farm operation's success. Promoting that stewardship is an obligation of all us. The North Dakota Grain Growers Association takes this obligation very seriously thus our Association is in full support of the Eastern North Dakota Soil Salinity Specialist grant.

Sincerely,

Byron Richard

Byron Richard
President
North Dakota Grain Growers Association

National Sunflower ASSOCIATION

4023 State Street
Bismarck, ND 58503-0690 USA
Phone: 701-328-5100
Fax: 701-328-5101
www.sunflowernsa.com

August 5, 2009

Red River RC&D
Attn: Vernon Russum
516 Cooper Avenue, Suite 101
Grafton, ND 58273

Dear Mr. Russum:

Thank you for sharing the 319 grant project proposal related to soil salinity. The proposal is of great interest to the National Sunflower Association (NSA). Our complements on a well written and focused proposal. It would appear that the proposed research will provide good answers for future reduction of saline soils.

Salinity has been of interest to the National Sunflower Association (NSA) and sunflower growers for some time. Farmers with saline soils report that sunflower is quite tolerant to these soils and is an excellent deep rooted crop that can dry out and open the soil. The sunflower plant is a bit of a scavenger and it has been used to remove heavy metals from soils in the Ukraine and Russia.

Do keep us informed of the progress of the project. The NSA board of directors may be interested in funding specific projects related to sunflower on saline soils. Information of grant proposals will be on our website by October 20 (www.sunflowernsa.com)

Sincerely,

Larry Kleingartner
Executive Director

Cavalier County SCD 800 9th Ave E, Suite B Langdon ND 58249

October 28, 2009

Red River RC&D
Atten: Vernon Russum
516 Cooper Ave, Suite 101
Grafton ND 58273

Dear Mr Russum:

This letter is in support of the Soil Salinity Special Initiative Program. This program will be beneficial for the Soil Conservation Districts in promoting education on Soil Salinity.

Sincerely,

Cavalier County District Board

Jon Iverson Terry Jacobson Karry Krahn Ed Pearson Kevin Dawley

BARNES COUNTY
SOIL CONSERVATION DISTRICT
575 10th Street SW – Suite 3
Valley City, ND 58072
Phone: 701-845-3114, Ext. # 3 - Fax: 701-845-5605

October 15, 2009

Sheyenne James RC&D Council
1301 Business Loop East
Jamestown, ND 58401-5946

RE: Eastern North Dakota Soil Salinity Specialist Project

Gentlemen:

The Barnes County Soil Conservation District recognizes the need for the Eastern North Dakota Soil Salinity Specialist project. Soil salinity has become a huge problem in recent years and yet the problem seems to go unnoticed. We feel that soil salinity needs to be addressed now through education, management and research.

This project will be a step in the right direction and we whole-heartedly support the Eastern North Dakota Soil Salinity Specialist project and it's sponsors.

Sincerely,

KAREN OLSTAD
District Manager

Our 11th commandment: Thou shalt safeguard thy fields from erosion, thy living waters from drying up, thy forest from desolation.....that thy descendents may have abundance forever.

From: Cudmore, Karen - Park River, ND
Sent: Thursday, August 27, 2009 10:04 AM
To: Sobolik, Gwen - Grafton, ND
Subject: Soil Salinity Specialist

Red River RC&D,

On behalf of the Walsh County Three Rivers SCD, we would like to extend our support for the funding of the Soil Salinity Specialist position in eastern North Dakota. Salinity issues are increasing in the Red River Valley.

Soil and water quality are impacted by salinity and therefore, is becoming an economic concern to landowners and agriculture producers.

We appreciate your concern and proposal of this project. Once again, we support this project. Thank you.

Walsh County Three Rivers SCD
417 Park St. W Ste 1
Park River, ND 58270
701-284-7466 ext. 3

Rolette County Soil Conservation District
1106 Main Ave West
Rolla, North Dakota 58367
701-477-3167

October 21, 2009

Jill Haakenson
RC&D Coordinator
Northern Plains RC&D
706 8th Ave SE Suite #6
Devils Lake, ND 58301

Dear Jill,

The Rolette County Soil Conservation District is pleased to support the application by the Resource Conservation and Development Councils for an EPA 319 grant for a "salinity resource program" for eastern North Dakota.

Our SCD passed a resolution supporting this grant application at its regular meeting on August 19, 2009. We look forward to the opportunity to work with this new program on the salinity issues that we have in Rolette County.

Thank you for the efforts that are being made to help our producers with salinity problems.

Sincerely,

Paul Overby
David Hill
Allen Schlenvogt

GRIGGS COUNTY SOIL CONSERVATION DISTRICT
805 LENHAM AVENUE S.W. - BOX 526
COOPERSTOWN, ND 58425-0526
701-797-2240 Ext. 3

Carol Peterson, Coordinator
Sheyenne James RC&D Council
Jamestown, ND 58401

Carol,

The Griggs County Soil Conservation District is in full support of a soil salinity project. The Griggs County SCD feels that the soil salinity issue is starting to get out of control and that something needs to be done. If there is something that the District can do to help just let us know and we will try and help as much as we can.

Thank you for trying to come up with a solution to our soil salinity issue.

Sincerely,

Dennis Haugen
Chairman
Griggs County SCD

7 First Street South
New Rockford, ND 53856

PH: 701-947-2436
Fax: 701-947-2016

Eddy County SCD

August 14, 2009

To Whom It May Concern:

The Eddy County Soil Conservation District unanimously voted to support the proposed 319 Salinity Grant spearheaded by Red River RC & D. Salinity is definite cause of concern in eastern North Dakota. The increase in saline acres is alarming and needs to be studied to determine a cause and to establish best management practices. Any help educating our cooperators about salinity management is appreciated.

Sincerely,

Catherine Albert
District Clerk/Technician

Conserving resources for the future!

conserving
natural resources
for our future

TOWNER COUNTY SOIL CONSERVATION DISTRICT
1200 Highway 281 South, Cando, ND 58324-6616 – (701) 968-4457 – Fax (701) 968-3308

August 12, 2009

Red River RC&D
Vernon Russum
516 Cooper Ave Ste 101
Grafton, ND 58273

Dear Mr. Vernon Russum,

The Towner County Soil Conservation District Board would like to go on record as supporting the project proposal that would fund a position for a Soil Salinity Specialist in eastern North Dakota. We have been aware of the salinity problem that is very evident on the land. Our board has been instrumental in getting the salinity issue addressed in our county. Several producers, in our county, are now participating in a special salinity soil initiative. We are grateful to see the soil salinity issue is still being addressed as a project of significant importance.

Sincerely,
Towner County SCD

Tim Hendrickson
District Chairman

conserving
natural resources
for our future

Ramsey County Soil Conservation District
706 8th Ave SE Suite # 2
Devils Lake, North Dakota 58301-3749
Telephone (701) 662-4088 Ext. 3

August 17, 2009

Red River RC&D
Vernon Russum
516 Cooper Ave Ste 101
Grafton, ND 58273

Dear Mr. Vernon Russum,

The Ramsey County Soil Conservation District Board at our board meeting August 13th would like to go on record as supporting the project proposal that would fund a position for a Soil Salinity Specialist in Eastern North Dakota. We have been aware of the salinity problem that is very evident on the land. Our board has been instrumental in getting the salinity issue addressed in our county. Several producers, in our county, are now participating in a special salinity soil initiative. We are grateful to see the soil salinity issue is still being addressed as a project of significant importance.

Sincerely,
Ramsey County SCD

Albert Wood
District Chairman